Dr SJ Forsythe

AUG 27 1990

electrometric mutagen assay. High marks for ingenuity!

It probably won't work for many compounds that

a) are toxic ≥ mutagenic (like Cl_2)

or

b) are insidious mutagens that don't evoke the usual array of DNA-repair mechanisms.

It is also possibly true that repair-deficient organisms have secondary defects that sensitize them to other modes of killing (or by slowing growth rates, the converse.) So I hope you're looking at a broader array of lethal agents, including β-lactams and detergents. The experiments will tell!

Sincerely,

Joshua Lederberg

... UNIVERSITY NEW YORK 10021

x: → CT 8/28/90

Please favor me with your following publications

Letters in Applied Microbiology 1990, 11, 30–32

AUG 27 1990

The rapid detection of direct-acting DNA mutagens by electrical impedence with a DNA repair-deficient strain of *Escherichia coli*

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FORSYTHE, S.J. 1990. The rapid detection of direct-acting DNA mutagens by electrical impedence with a DNA repair-deficient strain of *Escherichia coli*. *Letters in Applied Microbiology* 11, 30–32.

A differential killing assay using *Escherichia coli* WP2 (wild type) and WP67 (uvrA, polA) was combined with impedence microbiology to produce a rapid screening method for direct-acting mutagenic compounds. The assay showed that mitomycin C, *N*-nitroso guanidine, potassium dichromate, sodium azide and acridine orange were direct-acting mutagens. With this method results can be obtained within hours, as compared with two days for the standard *Salmonella*/microsome test.

DMG/020

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